PEMA-PVC-$LiBF_4$-SiO_2 (15 μm) POLYMER ELECTROLYTES: IONIC CONDUCTIVITY STUDIES

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ABSTRACT

PEMA-PVC based polymer blend electrolytes are prepared by solution casting technique. PEMA is the host polymer and PVC is added to PEMA using different ratios. The solvent used is THF. $LiBF_4$ and SiO_2 as the salt and inorganic filler respectively are added to improve the ionic conductivity of PEMA-PVC based polymer blend electrolytes. The bulk resistances of the polymer system are determined by Impedance Spectroscopy technique. All the samples are characterized at room temperature for frequencies ranging from 1 KHz to 1 MHz. The thickness of polymer films and ionic conductivities are then calculated and reported.